



Faculty of Applied and Creative Arts

**PROCESS OF CONCEPT ART CREATIONS WITH
INTERGRATION OF 3D AND 2D ASSETS FOR ANIMATIONS**

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**Bachelor of Applied Arts with Honours
(Design Technology)
2019**

PROCESS OF CONCEPT ART CREATIONS WITH INTEGRATION OF 3D AND 2D ASSETS FOR ANIMATIONS

DECLARATION OF ORIGINAL WORK

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This project is submitted in partial fulfilment of
the requirements for the degree of Bachelor of Applied Arts with Honours
(Design Technology)

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My sincere appreciation and gratefulness go to my supervisor, Dr. Zaidi, for his constant supervision, criticism and patient guidance which without it, this project would have not been as completed. My appreciation also extends to all other lecturers for giving me their useful comments and insight to aid me.

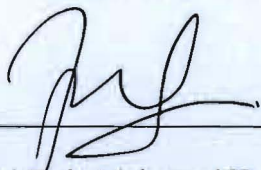
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ABSTRACT

The use of 3D models into 2D to create concept arts as a method has recently become popular that the need to find a standard method to integrate 3D assets into 2D to create concept art becomes the foundation of this thesis. Research has shown that more professional concept artists in the visual arts entertainment industry are favouring the utilizing 3D assets in their workflow. The study aims to analyse, compare and differentiate the process of concept art creations made by different professionals of the industry that integrates 3D assets. The different combinations of steps will then be experimented together. Building on existing work on concept art creations, the research questions the process of concept art creation with integration of 3D assets, the commonly used steps taken and considerations needed for the workflow.

With respect to literature review on concept arts, the method to approach the research is through observation, analysis with a question framework and experimentation with a structured defined process based on the artists. The professional artists observed were of different backgrounds and strengths in terms of concept art rendering. Both experiments successfully followed the defined process and resulted in ease concept art production in different methods and quality end results. However, the standard method of concept art creation designed in this research is narrowed to only environmental concept art and, on this basis, it is recommended that this is for environment concept art. Further research is needed to align with other concept arts creations.

ABSTRAK

Penggunaan model 3D dengan 2D untuk mewujudkan seni konsep sebagai satu kaedah yang baru-baru ini menjadi popular. Dengan itu, keperluan untuk mencari kaedah tahap yang lazim untuk mengintegrasikan aset 3D dengan 2D untuk mewujudkan konsep seni menjadi landasan tesis ini. Penyelidikan telah menunjukkan bahawa kebanyakan artis-artis konsep yang profesional dalam industri hiburan seni visual memihak kepada penggunaan aset 3D dalam proses kerja mereka. Kajian ini bertujuan untuk menganalisa, membandingkan dan membezakan proses kreasi seni konsep dibuat oleh ahli profesional industry berlainan bidang yang mengintegrasikan aset 3D. Beberapa gabungan langkah-langkah berbeza kemudian akan diuji menurut kaedah tahap yang lazim diwujudkan berdasarkan kepada informasi yang diperolehi. Berdasarkan pada karya yang sedia wujud tentang ciptaan seni konsep, penyelidikan ini mempersoalkan proses pembuatan konsep dengan integrasi aset 3D, langkah-langkah biasa yang diambil dan pertimbangan yang diperlukan untuk proses kerja.

Berdasarkan ulasan kesusasteraan mengenai konsep seni, kaedah untuk pendekatan penyelidikan adalah melalui pemerhatian, analisa dengan kerangka soalan dan ujian dengan proses yang ditentukan berstruktur berdasarkan para-para artis. Ahli artis profesional yang dipilih untuk diperhatikan ada latar belakang dan kekuatan dari segi konsep seni rendering yang berlainan. Kedua-dua eksperimen yang dilakukan berjaya mengikuti proses yang ditakrifkan dan menghasilkan pengeluaran konsep konsep kesederhanaan dalam kaedah dan hasil akhir yang berkualiti. Walau bagaimanapun, kaedah tahap konsep penciptaan seni yang direka dalam penyelidikan ini telah disempitkan hanya kepada seni konsep alam sekitar. Oleh itu, disyorkan bahawa penyelidikan ini adalah untuk seni konsep alam sekitar sahaja. Kajian lanjut diperlukan untuk menyelaraskan dengan ciptaan seni konsep yang lain.

CHAPTER ONE

INTRODUCTION

1.1 Background Study

In the production pipeline of the entertainment industry, especially involving visual arts as its means of connecting to the audience, concept art plays an impressive role in linking the ideation and design for all the stages of productions. It is a form of communication in image form to all departments working on the project as a base of reference to the aesthetics of the entertainment medium in terms of its visuals, its emotional substance and the intended interpretations of certain ideals (Rässa, 2018).

Concept art is a form of communication in graphical form to convey ideations to be used for animations, films and video games. They are created either based on reality with added stylization of the artist's perceptions on said reality. It undergoes reiterations of refining, adjusting and redesigning as a process of designing a suitable work for the project with respect to the ideals of the directors and target audiences. It does not necessarily mean that the artwork will be used in the production directly as it is mostly used amongst the designers to understand the overall feel of the film, video game or animation (Moreno, 2014).

The use of 2D and 3D assets together in the process of creating concept art has become a widespread method in the concept art industry only in recent years. Whilst it is greatly influenced by an increase in popularity in using 3D in animations, films and video games, the use of 3D renders also gives large advantages to the creation of the concept art, such as saving time from drawing complex models in various perspectives (Toon Boom, 2018).

The goal of this study is to create a defined process in creating concept art by integrating 2D and 3D assets.

1.2 Scope of study

The scope of study of this thesis is focused towards:

- The main aspects in concept art creation
- Involvement of 3D assets in creating concept art
- Process of creating concept art in the professional industry

1.3 Importance of Study

The purpose of this study is to further understand methods used to create concept art by integrating 3D assets into 2D from various artists of the industry. After analysis of these various methods, they will then be used to evaluate efficient methods to creating concept art. The methodology will then be applied to create concept arts for the project “Crystal Dragons”.

1.4 Research Aims

The aim of this research is to define a standard method to the process of integrating 2D and 3D assets in creating basic concept art designs, based from the professionals of the creative industries of films, animations and video games. The methodology defined will be focused on the efficiency of the steps taken and how easily accessible the steps can be done.

1.5 Problem Statement

With the use of 3D models into 2D to create concept arts as a method that has recently become popular, the need to find a standard method to integrate 3D assets into 2D to create concept art becomes the foundation of this thesis.

1.6 Research Objectives

- Analyse the process of concept art creations made by the professionals
- Compare and differentiate similar steps taken by the different professionals in the industry
- Experiment the combination of different steps and techniques together analysed for quality concept art creations

1.7 Research Questions

- What is the process of concept art creation by professionals with the integration of 3D assets?
- What are steps commonly done by professionals in the industry that can be defined as a necessary step to take?
- What considerations should be taken for each combination of method done that will affect flow of work for concept art creation?

1.8 Methodology

The main methodology of this research is extracting information through thorough observation and analysis of the work progress and steps taken by the industry professionals. The information will be then compared from one artist's methods to another to find an efficient method. The artists that will be studied are those of professional backgrounds in the entertainment industries as the main objective is to research on professionals. They are as following:

- Albert Ramon Puig, 2D artist in the UI/UX field in video game industry.
- Donglu Yu, Senior Concept Artist at Ubisoft Montreal
- Tim Kaminski, Art Director and Environment Concept Artist

Afterwards, the information is used to construct a rough standard method to integrate 3D assets into 2D to create concept art and experimented with.

1.9 Summary

This thesis focuses mainly the process integration of 3D and 2D into creating concept art. It will also be concentrating on standardizing steps necessary to create concept art with modern methods that are used in the professional concept art industry.

In chapter 2, the literature review will be focused on concept arts in terms of its core aspects and fundamentals. It will also cover on topics regarding to the integration of 2D and 3D assets into concept arts. Chapter 3 will focus on observation and analysis of works of the professionals. The results will then be focused on through experimentations in Chapter 4 and discussed further in Chapter 5.

CHAPTER TWO

LITERATURE REVIEW

The use of concept art in the entertainment industry has been shown to be of great importance over the years, as seen evidently through their released artbooks and behind the scenes snippets. Concept artists form them by rendering realism alongside their wildest imaginations, with the endpoint of a balance between the two extremes (Concept Art Empire, 2018). The general consensus of Concept Art Empire states that concept art is widely used as a communication tool in the form of visuals in the pipeline of a visual entertainment industry.

2.1 History of Concept Art

The term 'concept art' dates back to the early 1930s. It was used by Disney as they worked on the production of Snow White, the first full-length animated feature in colour and sound (Ghez, 2015). Albert Hurter was a part of Disney's team of concept artists at the time and according to his sketchbook (1948), Disney saw his work and portfolio filled with descriptions of ideas and imaginations in drawings. He was later to draw for inspirational art for Snow White while it was still in its production stage. From the sketchbook, it could have been implied that 'concept art' were for drawings that were described as:

- Inspirational sketches
- Preliminary drawings
- Experimentations
- Decorative details and reiterations



Figure 1 & 2. Illustrations of Players for a Musical fantasy and the early sketches of Snow White. Reprinted from *He drew as he pleased: A Sketchbook by Albert Hurter* (27, 30), by A. Hurter, 1948, (n.p.): Simon and Schuster.

Concept art became more relevant once animation houses, film makers, video game developers released their art books. They become a medium of education for students of the creative industry for the design process of a game or animations. Oatley (2014) discusses that part of the appeal in concept art books is the content that brings about inspiration to the readers and an insight of the actual process of development of filmmaking and/or game making, included the pre-production sketches, illustrations and its process from doodles to final designs. The Skillful Hunstman: Visual Development of a Grimm Tale (2005) is a prominent example whereby the artists and authors describe the process of development step by step with full detail and their reasonings behind them.

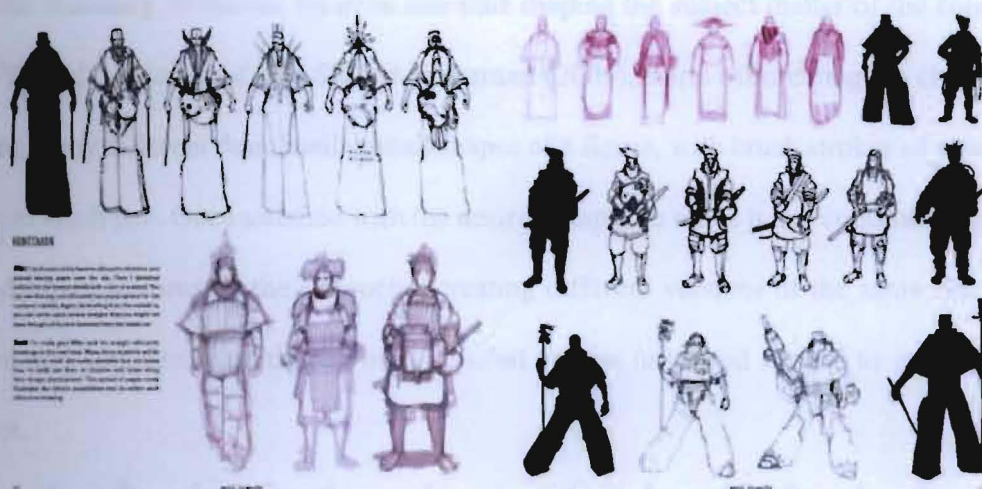


Figure 3. A page on The Skillful Huntsman where Mike describes his concept design from silhouette shapes to a detailed character. Reprinted from *The Skillful Huntsman: Visual Development of a Grimm Tale at Art Center College of Design* (74 - 75), by K.g Le, F. Yoon, M. Yamada, S. Robertson, 2005, Culver City, CA: Design Studio Press.

2.2 Concept Art Aspects

According to Shamsuddin et al. (2013), the essential aspects in creating concept art involves resources, development of conceptual thought and concept art, and utilizing the elements and principles of art. These three aspects are intertwined with one another and support each other in creating high quality concept art.

Resources in this context involve the tools of the trade that aid in the creation of concept art, regardless of technology. Included are traditional tools such as pencils and water colour paints and reference materials from observations, photograph references and internet photograph. Also included are art tools in digital form such as digital photo editing software and supporting hardware to create concept art such as Photoshop, Corel Painter and Wacom tablets.

With the necessary resources, an artist can start shaping the subject matter of the concept art. Mike Yamada, an artist of *The Skilled Huntsman* (2005), starts off creating his characters by drawing many different thumbnails, small shapes of a figure, with brush strokes of a traditional Japanese brush pen. Once satisfied with the desired shape, he scans it and continues digitally to draw defining features on the silhouette, creating different versions of the same character to explore and compare what can be used or what can be reiterated further to get the desired concept.

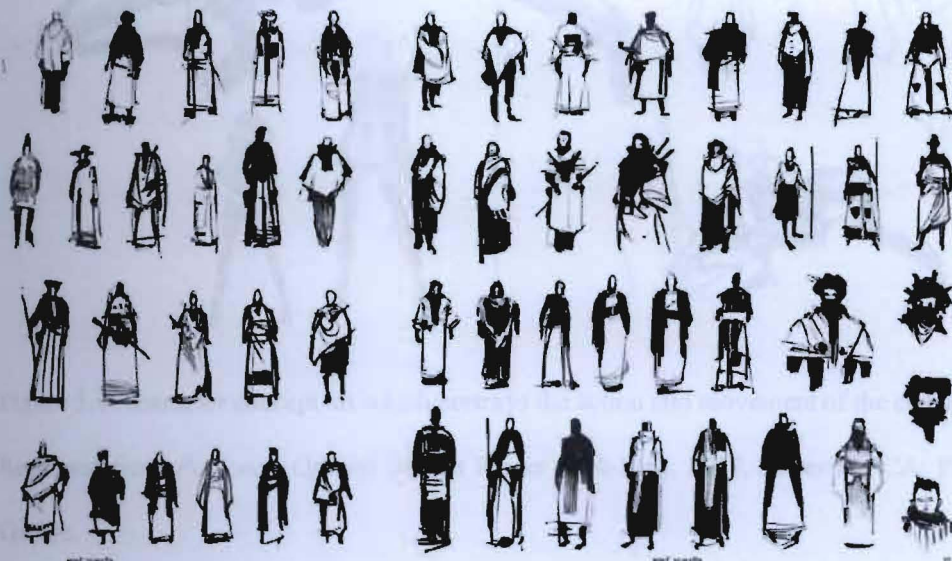


Figure 4. A series of silhouettes and shapes of a character created with brushstrokes by Mike Yamada. Reprinted from *The Skillful Huntsman: Visual Development of a Grimm Tale at Art Center College of Design* (74 - 75), by K. Le, F. Yoon, M. Yamada, S. Robertson, 2005, Culver City, CA: Design Studio Press.

To enhance a concept art to the fullest, the elements and principles of arts should be applied in the creation of concept art. Concept art of characters depend on the thickness of lines to emphasize the direction of their movements or their postures. The process would require either adding more strokes with ink traditionally or to increase the brush sizes to create depth. Using

negatives and positives makes thumbnailing and colouring easier. In terms of environment, Yamada (2005) would stylize the concept art of an area with the use of dynamic perspectives from angles that would bring out the story of the environment visually.



Figure 5. A character concept art which portrays the action and movement of the character.

Reprinted from *Persona5 Official Design Works* (134-135), 2017, Roseville, CA: Prima Games.

2.3 Controversies using 3D assets

However, integrating 3D assets and elements in aiding the creation of concept arts is more exclusive to the professional scene than public practice. This mostly stems from the idea that the use of 3D assets, or in general assets that can be used to aid develop concept art such as photos, grids and etc, is seen as cheating. Users of CGSociety (2017) for example have discussed and expressed their concerns on the topic using 3D models as a point of reference in the CGSociety forums. The main verdict of the discussion was that the idea is dependent on the

morality and ethics in using assets beyond the scope of hand drawn 2D accompanied- For it to be reasonably acceptable/not cheating, it must be for referencing and learning purposes whilst attentively avoiding plagiarism or unacceptable claims, etc.

Another negative impression in using external assets in creating concept art is the fear of losing the integrity in drawing concept art. In other words, the drawing skills are not properly used, honed or learned in the process of creating the concept art. Saffadi (2015) countered this by not only going back to the core meaning of concept art, which is to convey the core message of the art, but to relate as an artist more opportunities to express the details in the art at other areas of the concept art. A concept artist with skills and techniques in drawing human anatomy can simply draw over a human model so they can, for example, focus on stylizing and improve clothing design.

2.4 Benefits of using 3D assets in Concept art design

Despite this, traditional and digital 2D sketching systems have their limitations, especially in maintaining depth and creating detailed perspectives (Arora et al., 2018). In the professional scene, 3D rendered objects and photographs are heavily referenced to create realism and depth to the scene composition. This can be reflected from the use of Deep Canvas by Disney in their works such as Tarzan, Treasure Planet and Atlantis. Disney artists would draw over the rendered 3D assets and scenes to create animated scene. This results in fully expressing the elements and principles of art by being able to fully utilize the camera angles that shows the beauty, field and depth of the scene composition.



Figure 6. The animators working with Deep Canvas by painting over the models for Tarzan. Taken from *Tarzan Deep Canvas Demo* [Youtube Video] by Cookedart (2006).

Retrieved from <https://www.youtube.com/watch?v=RZA6nitNeYw>

The concept art industry in the professional scene continues to have more positive outlook to using external assets in concept art creation. Feghali (n.d.) states in his article that 3D renders would provide realistic texture models for the scene composition necessary, reference models figure to draw over and automatic perfect perspective scenes for efficiency in concept art design. Various programs for digital art have also implemented the function to use 3D models for referencing purposes such as difficult poses and perspectives. To simplify, details that would require a lengthy amount of time could be reduced to hours.

Semi-matte carbon.

Matte default grey.

Brushed brass.

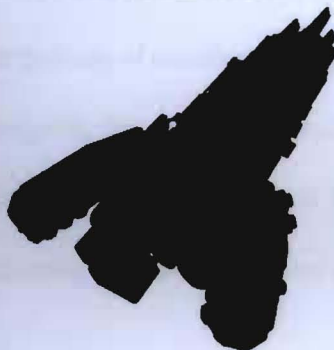


Figure 7. Three different materials are rendered on this object to save time in detailing each of the materials. Taken from *Using 3D in Concept Art*, by W. Feghali, (n.d.). Retrieved from <http://www.evenant.com/design/using-3d-in-concept-art/>



Figure 8. Each render was compiled over and blended with matte painting to create this concept art. Taken from *Using 3D in Concept Art*, by W. Feghali, (n.d.). Retrieved from <http://www.evenant.com/design/using-3d-in-concept-art/>

Further information on the professional concept art industry is that time and efficiency possess more value especially when the visual entertainment industry is booming in the current time. Saffadi (2015) stresses that the use of 3D assets and photos references to draw over or for heavy referencing aids in speeding up the process of creating concept art. With this, the concept artists can allocate time and focus on designing the storytelling and the content of the concept art. In doing so, the purpose and message of the concept art is fully conveyed to the rest of the production team to the fullest, reflecting on the balance and composition of the concept art.



Figure 9. A scene for Ultima Underground is blocked with Modo with free 3D assets to save approximately 4 hours of drawing figures from scratch. Taken from *Concept Art is Dead*, by Shaddy Saffadi, (2015). Retrieved from <https://www.youtube.com/watch?v=CYbYvImd7Bw>



Figure 10. The complete concept art of Ultima Underground. By One Pixel Brush (2018).

Retrieved from <http://onapixelbrush.com>

The current generation of concept artists in the professional industry uses 3D assets in favour of efficiency to produce concept arts to of visual communication. They are able to improve in areas where they previously lacked performance on and can focus on the design and elements and principles aspects of the concept art.

CHAPTER THREE

METHODOLOGY

The methodology that will be implemented to get further insight in the research study, the process of concept art creations with integration of 3D and 2D assets for animations, specifically by the professionals of the concept art industry.

3.1 Purpose of the Study and Type of Investigation

To highlight once more, the aim of this research is to define a standard method to the process of integrating 2D and 3D assets in creating basic concept art designs for animations. The study of concept art creations will be based on the professionals of the animations industry. It will later be applied for future references to create concept arts for various purposes such as the project “Crystal Dragons”.

With respect to the literature review, there is evidence that the industry advocates the use of merging 2D assets and 3D assets in creating concept art. However, there are no general agreement on what can be the foundation of a concept artist’s workflow that involves the use of 2D assets and 3D assets. The workflow of the concept artists includes the key steps taken in their process of creating concept art.

On this basis, this research will be conducted by observations of the artists as they work on the concept art and the concept art itself and analysing their process in creating the concept art with the use of both 2D and 3D assets. This is then followed by experimentations to have a series of defining steps, collectively seen as a general workflow for creating concept arts with 2D and 3D assets.